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NOTICE OF ALLOWANCE AND FEE(S) DUE

20462

7590

02/23/2010

SMITHKLINE BEECHAM CORPORATION
CORPORATE INTELLECTUAL PROPERTY-US, UW2220
P. O. BOX 1539
KING OF PRUSSIA, PA 19406-0939

EXAMINER

CHU, YONG LIANG

ART UNIT

PAPER NUMBER

1626

DATE MAILED: 02/23/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,613	07/28/2006	Vipulkumar K. Patel	PB60707	8356

TITLE OF INVENTION: FUSED HETEROARYL DERIVATIVES AND THEIR USE AS P38 KINASE INHIBITORS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	05/24/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE** OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

20462 7590 02/23/2010

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Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,613	07/28/2006	Vipulkumar K. Patel	PIB6707	8356

TITLE OF INVENTION: FUSED HETEROARYL DERIVATIVES AND THEIR USE AS P38 KINASE INHIBITORS

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nonprovisional	NO	\$1510	\$300	\$0	\$1810	05/24/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHU, YONG LIANG	1626	514-338000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
 (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____
 Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability**Application No.**

10/587,613

Examiner

YONG CHU

Applicant(s)

PATEL ET AL.

Art Unit

1626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/03/2009.
2. ☒ The allowed claim(s) is/are 1-9 and 14-26 (renumbered as 1-22).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date ____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date ____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other ____.

DETAILED ACTION

New claims 25-26 are added. Claim 1 is amended. Claims 1-9 and 14-26 are currently pending. Claim 14 remains withdrawn as non-elected subject matter. Applicants authorized the Examiner to amend the claim 1, see the Examiner's Amendment.

Response to Amendment

The Amendment by Applicants' representative Ms. Dara L. Dinner dated 11/03/2009 has been entered.

Response to Arguments

Rejection under 35 U.S.C. §103(a)

Applicants' amendment obviates the rejection.

Claim Objections

Search and examination have been expanded to all the subject matter of pending claims 1-9 and 15-26. The objection for containing non-elected subject matter is moot.

Examiner's amendment

An examiner's amendment to the record with the authorization by Applicants' representative Ms. Dara L. Dinner dated 02/04/2010 appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

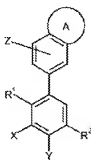
In **claim 1**, page 4, line 4, **delete** "C₁₋₆alkyl".

Rejoinder

Claims 1-9 and 15-26 are direct to an allowable product. Pursuant to the procedures set forth in MPEP §821.04(B), claim 14, directed to a process of making the allowable products, previously withdrawn from consideration as a result of a restriction requirement, are hereby rejoined and fully examined for patentability under 37 CFR 1.104. Because a claimed invention previously withdrawn from consideration under 37 CFR 1.142 has been rejoined, the restriction requirement between Groups I and III as set forth in the Office action mailed on 01/17/2008 is hereby withdrawn. In view of the withdrawal of the restriction requirement as to the rejoined inventions, applicant(s) are advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once the restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Reasons for Allowance

The present invention is directed to specific compounds according to claim 1,



which is drawn to the formula (I) , wherein

A is a fused 5-membered heteroaryl ring containing up to two heteroatom independently selected from oxygen, nitrogen or sulfur substituted by $-B^1R^6$, and A is optionally further substituted by one substituent selected from $-OR^7$, halogen, trifluoromethyl, $-CN$, $-CO_2R^7$ and C_{1-6} alkyl optionally substituted by hydroxy; or

A is a fused 5-membered heteroaryl ring containing up to two heteroatom independently selected from oxygen, nitrogen or sulfur substituted by $-(CH_2)_n$ heterocyclyl wherein the heterocyclyl is a 5- or 6-membered heterocyclic ring containing one or two heteroatoms independently selected from oxygen, sulfur and nitrogen optionally substituted by up to two substituents independently selected from oxo, C_{1-6} alkyl, OR^7 , $-NR^7R^8$ and $-CONR^7R^8$, and A is optionally further substituted by one substituent selected from $-OR^7$, halogen, trifluoromethyl, $-CN$, $-CO_2R^7$ and C_{1-6} alkyl optionally substituted by hydroxy; or

A is a fused 5-membered heteroaryl ring containing up to two heteroatom independently selected from oxygen, nitrogen or sulfur substituted by $-(CH_2)_q$ aryl or $-(CH_2)_q$ heteroaryl wherein the aryl or heteroaryl is optionally substituted by one or more substituents independently selected from oxo, C_{1-6} alkyl, halogen, $-CN$, trifluoromethyl, $-OR^9$, $-(CH_2)_4CO_2R^{10}$, $-NR^9R^{10}$, $-(CH_2)_4CONR^9R^{10}$, $-NHCOR^9$, $-SO_2NR^9R^{10}$, $-NH SO_2R^9$ and $-S(O)_2R^9$, and A is optionally further substituted by one substituent selected from $-OR^7$, halogen, trifluoromethyl, $-CN$, $-CO_2R^7$ and C_{1-6} alkyl optionally substituted by hydroxy;

R^1 is selected from methyl and chloro;

R^2 is selected from $-NH-CO-R^{11}$ and $-CO-NH-(CH_2)_tR^{12}$;

R^{11} is selected from hydrogen, C_{1-6} alkyl, $-(CH_2)_t-C_{3-7}$ cycloalkyl, trifluoromethyl, $-(CH_2)_v$ heteroaryl optionally substituted by R^{20} and/or R^{21} , and $-(CH_2)_v$ phenyl optionally substituted by R^{20} and/or R^{21} ;

R^{12} is selected from hydrogen, C_{1-6} alkyl, C_{3-7} cycloalkyl, $-CONHR^{22}$, phenyl optionally substituted by R^{20} and/or R^{21} , and heteroaryl optionally substituted by R^{20} and/or R^{21} ;

R¹⁵ is selected from hydrogen and methyl;

R¹⁶, R¹⁷, R¹⁸ and R¹⁹ are each independently selected from hydrogen and C₁₋₆alkyl;

R²⁰ is selected from C₁₋₆alkyl, C₁₋₆alkoxy, -(CH₂)_t-C₃₋₇cycloalkyl, -CONR²²R²³, -NHCOR²³, halogen, -CN, -(CH₂)_wNR²⁵R²⁶, trifluoromethyl, phenyl optionally substituted by one or more R²¹ groups, and heteroaryl optionally substituted by one or more R²¹ groups;

R²¹ is selected from C₁₋₆alkyl, C₁₋₆alkoxy, halogen, trifluoromethyl, and -(CH₂)_wNR²⁵R²⁶;

R²² and R²³ are each independently selected from hydrogen and C₁₋₆alkyl, or

R²² and R²³, together with the nitrogen atom to which they are bound, form a 5- or 6-membered heterocyclic ring optionally containing one additional heteroatom selected from oxygen, sulfur and N-R¹⁵, wherein the ring may be substituted by up to two C₁₋₆alkyl groups;

R²⁵ is selected from hydrogen, C₁₋₆alkyl and -(CH₂)_t-C₃₋₇cycloalkyl optionally substituted by C₁₋₆alkyl,

R²⁶ is selected from hydrogen and C₁₋₆alkyl, or

R²⁵ and R²⁶, together with the nitrogen atom to which they are bound, form a 5- or 6-membered heterocyclic ring optionally containing one additional heteroatom selected from oxygen, sulfur and N-R¹⁵;

R²⁷ is hydrogen or C₁₋₆alkyl;

B¹ is selected from a bond, oxygen, NH and S(O)_x;

X and Y are each independently selected from hydrogen, methyl and halogen;

Z is selected from halogen, and -OR²⁷;

[[k,_i]] m and w are each independently selected from 0, 1, 2 and 3;

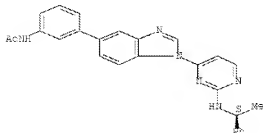
n, q, r, s, t and x are each independently selected from 0, 1 and 2; and

u and v are each independently selected from 0 and 1;

or a pharmaceutically acceptable salt thereof.

The closest prior art of record is U.S. Patent No. 6,498,165 ("the '165 patent").

The '165 patent discloses a compound (CAS RN 317827-90-0)



This compound is patentably distinct from the instantly claimed compounds, because the instantly claimed compounds having substituent **Z** as halogen or $-\text{OR}^{27}$, wherein R^{27} is hydrogen or C_{1-6} alkyl, and R^1 is methyl and chloro; and the prior art compound having substituent **Z** as hydrogen and R^1 is hydrogen.

Conclusions

- Claims 1-9 and 14-26 are allowed.

Telephone Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong Chu, Ph.D., whose telephone number is 571-272-5759. The examiner can normally be reached on 7:00 am - 3:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph K. McKane can be reached on 571-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Status Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Yong Chu/
Primary Patent Examiner
Art Unit 1626